

TSYRKIN, I. Z.

5  
D Prop

Fuel Abat.  
Vol. 15 No. 4  
Apr. 1954  
Steam Raising and Steam  
Engines

✓ 3068. DETERMINATION OF VIBRATION CHARACTERISTICS OF STEAM TURBINE  
BLADES FROM TABLES. Tsyarkin, I. Z. (Elekt. Sta. (Pwr. Sta., Moscow), Apr.  
1953, 23, 24). To expedite maintenance work on turbines the calculation  
of blade resonance should be carried out at the same time as the static  
frequency is experimentally determined. This may be done by using simple  
calculating tables in which are indicated the frequency limits giving  
satisfactory damping of the first harmonic of tangential oscillation for  
given multiples of blade vibration. Such tables may be prepared  
beforehand for all experimental stages. B.E.A.

TSYRKIN, I.Z., inzhener.

Determining vibration characteristics of steam turbine blades from tables.  
Elek. sta. 24 no. 4:23-24 Ap '53.

(MLRA 6:5)

(Steam turbines--Blade)

ANTONOV, E.I., inzh.; KUZNETSOV, D.P., inzh.; LAVRUKHINA, T.P., inzh.;  
TSYRKIN, I.Z., inzh.

Redesigning of the EP-3-600 ejector for operation on steam pressures  
of 6 atm. Energetik 10 no.5:13-16 My '62. (MIRA 15:5)  
(Steam turbines)

TSEKHANSKIY, K.R., inzh.; TSIRKIN, I.Z., inzh.

Apparatus for the dynamical balancing of rotors and for the study  
of vibrations in machine units. ~~Elek. svyaz~~ no. 9:51-55 S '61.

(MIRA 14:10)

(Electric apparatus and appliances)

(Balancing of machinery)

LEVIN, Mark Iosifovich; TSYRKIN, Mikhail Isaakovich; MATYUNIN, A.S., inzh.,  
retsenzent; ZBROZHEK, V.V., inzh., nauchnyy red.; APTEKMAN, M.A.,  
red.; FRUMKIN, P.S., tekhn.red.

[Automatic systems for controlling temperatures of marine diesel  
engines] Sistemy avtomaticheskogo regulirovaniya temperatur v  
sudovykh diesel'nykh ustanovkakh. Leningrad, Gos.soiuznoe izd-vo  
sudostroitel'noy promyshl., 1959. 138 p. (MIRA 12:5)

(Marine diesel engines--Cooling) (Automatic control)  
(Temperature regulators)

BRUNSHTEYN, B.A.; IVANOV, A.G.; KLIMENKO, V.I.; TSYRKIN, Ye.B.

Distribution of expenditures for acetylene and ethylene in  
their simultaneous production. Nefteper. i neftekhim. no. 4:28-  
30 '65. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh  
protssessov.

KLIMENKO, V.L.; TSYRKIN, Ye.B.

Use of butylenes in petroleum chemistry. Trudy LNEI no. 46:  
34-43 '63. (MIRA 17:6)

KLIMENKO, V.L.; RUDKOVSKIY, D.M.; TSYRKIN, Ye.B.

Present status of and prospects for the development of oxo-synthesis  
abroad. Nefteper. i neftekhim. no.3:47-52 '63. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh  
protssessov.



1. TSYRKINA, E. E.

2. USSR (600)

4. Latvia - Soils

7. Data on identification of organic matter in the soil of Latvian S.S.R.  
Latv. SSR Zin. Akad. Vestis 1, 1951

9. Monthly List of Russian Accessions, Library of Congress, January 1953, Unclassified.

Tsyrkina, E. B.

36627. Podbizhnyye Forty Organicheskogo Veshchestva v Torfakh Latvyskoy SSR.  
Izvestiya Akad. Nauk Latv. SSR. 1949 No. 10, c. 59-63. - Rezjume na Latysh. Yaz.

SO: Letopis' Zhurnal'nykh Statey, Vol. 50, Moskva, 1949

1. TSYRKINA, E. B.
2. USSR (600)
4. Soils-Latvia
7. Data on identification of organic matter in the soil of Latvian S. S. R.  
Latv. PSR Zin. Akad. Vestis. No. 1, 1951.
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

TSYKIN, M. I.

Automation of test-branches for diesel engines. *Energomashinostroenie*, no 1, p. 24, 1956.

The article describes tests on two automatic systems developed by the "Russki Diesel" factory and successfully applied on the works test bench. One system provides for automatically maintaining the fuel level in the tanks, the other gives an alarm if the pressure drops in the lubricating oil or cooling water systems. The schemes are also recommended for use when operating diesel engines.

Abstract - D 470255

CHEREDNICHENKO, V.; TSIRKUNOV, A.

Carcass stretching for sawing. Mias. ind. SSSR 26 no.3:55 '55.  
(MIRA 8:9)

1. Mogilevskiy myasokombinat  
(Mogilev--Heat industry)

TSYRKUNOV, L.P.

Importance of liver and gastric function in the development of skin lesions caused by epoxy resins and nickel salts. Vest. dermat. i ven. 37 no.6:27-30 Ja '63. (Mira 17:6)

1. Kiyevskiy institut g.giyeny truda i professional'nykh zabolevaniy (dir. - prof. I.I. Medved') i kafedra kozhnykh bolezney (zav. - prof. I.I. Tototskiy) Kiyevskogo meditsinskogo instituta.

TSYRKUNOV, L.P.

Skin disorders in Pringle-Bourneville disease. Vest. dermat. i  
ven. 37 no.7:49-52 J1'63 (MIRA 16:12)

1. Klinika kozhnykh i venericheskikh bolezney (nauchnyy rukovoditel' - dotsent S.N. Bogdanovich) Kiyevskogo meditsinskogo instituta i Kiyevskogo instituta gigiyeny truda i professional'nykh zabolevaniy.

GUR, E.K.; TSYRKUNOV, L.P.

Tuberous sclerosis. Vrach. delo no.10:117-119 0 '61. (MIRA 14:12)

1. Klinika nervnykh bolezney (zav. - deystvitel'nyy chlen AMN SSSR, prof. B.N.Man'kovskiy) i klinika koznykh i venericheskikh bolezney (zav. - dotsent S.N.Bogdanovich) Kiyevskogo meditsinskogo instituta imeni akademika A.A.Bogomol'tsa.  
(TUBEROUS SCLEROSIS)



1ST AND 2ND ORDERS

PROCESSED AND PROPERTIES INDEX

5

*ca*

The effect of methyl violet on photographic emulsions.  
A. V. Taylin. *Kinofotokhim. Prom.* 6, No. 11/12, 74-6  
(1940).—Methyl violet added to a contrast paper emul-  
sion produced some optical sensitization and increased the  
total sensitivity, up to 5-8 mg. per l. Larger amts. desen-  
sitized strongly. W. R. Richter and B. H. Carroll

3RD AND 4TH ORDERS

5TH AND 6TH ORDERS

7TH AND 8TH ORDERS

9TH AND 10TH ORDERS

11TH AND 12TH ORDERS

13TH AND 14TH ORDERS

15TH AND 16TH ORDERS

17TH AND 18TH ORDERS

19TH AND 20TH ORDERS

21ST AND 22ND ORDERS

23RD AND 24TH ORDERS

25TH AND 26TH ORDERS

27TH AND 28TH ORDERS

29TH AND 30TH ORDERS

31ST AND 32ND ORDERS

33RD AND 34TH ORDERS

35TH AND 36TH ORDERS

37TH AND 38TH ORDERS

39TH AND 40TH ORDERS

41ST AND 42ND ORDERS

43RD AND 44TH ORDERS

45TH AND 46TH ORDERS

47TH AND 48TH ORDERS

49TH AND 50TH ORDERS

51ST AND 52ND ORDERS

53RD AND 54TH ORDERS

55TH AND 56TH ORDERS

57TH AND 58TH ORDERS

59TH AND 60TH ORDERS

61ST AND 62ND ORDERS

63RD AND 64TH ORDERS

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67TH AND 68TH ORDERS

69TH AND 70TH ORDERS

71ST AND 72ND ORDERS

73RD AND 74TH ORDERS

75TH AND 76TH ORDERS

77TH AND 78TH ORDERS

79TH AND 80TH ORDERS

81ST AND 82ND ORDERS

83RD AND 84TH ORDERS

85TH AND 86TH ORDERS

87TH AND 88TH ORDERS

89TH AND 90TH ORDERS

91ST AND 92ND ORDERS

93RD AND 94TH ORDERS

95TH AND 96TH ORDERS

97TH AND 98TH ORDERS

99TH AND 100TH ORDERS

1. TSYMLIN, P.
2. USSR (600)
4. Compressors
7. Testing a refrigeration turbo-compressor unit, Vhol. takh. 30-no. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Unclassified.

MEDOVAR, L., inzh.; UZHANSKIY, V., inzh.; TSYRLIN, R., inzh.

Electronic indicators for refrigeration compressors [with summary  
in English]. Khol.tekh. 37 no.2:8-12 My-Ap'60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy  
promyshlennosti.

(Compressors) (Strain gauges)

BUKHTER, Ye., inzh.; TSYRLIN, B., inzh.

Principal trends in the development of centrifugal refrigeration compressors. Khol. tekhn. 35 no. 3:23-28 My-Je '58. (MIRA 11:7)

1. Tsentral'noye konstruktorskoye byuro kholodil'nogo mashinostroyeniya (for Bukhter). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (for TSyrlin).  
(Compressors)

SOV/65-59-3-4/31

14(1)

AUTHOR: Tsyrlin, B. Engineer

TITLE: Application of Helical Gear Compressors in Refrigeration Engineering

PERIODICAL: Kholodil'naya tekhnika, 1959, Nr 3, pp 16-20 (USSR)

ABSTRACT: Helical gear compressors are the latest development in compressors. Professor Lisholm has introduced this type of compressor in Sweden, where it is produced by the SRM firm. Helical gear compressors are also being turned out in Great Britain, the USA and Germany. The article described the principle features of this new machine which has the advantage of requiring no lubrication due to the fact that friction between rotors is eliminated, being machined in such a way that their surfaces do not come into contact. Helical gear compressors are of either single-or double step design and consist of comparatively few parts. Rotors are made of carbon steel, bodies of wrought iron; thrust bearings are usually made in the form of bronze bushings. Loss due to return-flow decreases as peripheral speed increases. In air compressors, having a compression degree of  $\Pi = 2.5-4.0$  peripheral speed is estimated

Card 1/3

SOV/66-59-3-4/31

Application of Helical Gear Compressors in Refrigeration Engineering

at 80-100 m-sec with the number of revolutions varying from 3,000 to 30,000 per minute. Helical gear compressors have a comparatively high and steady efficiency factor. In comparison with piston type compressors helical gear compressors are 2-10 times smaller and 10-100 times lighter. Helical gear compressors are built up to a capacity of 30,000 cu m-hr; they are used not only as compressors but also for driving engines in the mining and coal industry, also for air conditioning in pressurized cabins of high altitude aircraft. Helical gear compressors are not yet being used in the refrigeration industry. except in some special cases; however, due to their outstanding properties, they are called upon to take a predominant place in refrigeration engineering beside centrifugal compressors. There are 6 diagrams, 1 graph and 5 references, 2 of which are Soviet, 1 German, 1 Swedish, and one English.

Card 2/3

SOV/66-59-3-4/31

Application of Helical Gear Compressors in Refrigeration Engineering

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlen-  
nosti (All-Union Scientific Research Institute of Refrigeration Industry)

Card 3/3

**"APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001757320012-3**

**APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001757320012-3"**



TSYRLIN, D.L.

Achievements in the superphosphate industry and trends in its  
development. Zhur.prikl.khim.28 no.10:1025-1036 0 '55.  
(Phosphates) (MLRA 9:2)

**"APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001757320012-3**

**APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001757320012-3"**

Tsyrlin, D. L.

AID P - 3918

Subject : USSR/Chemistry

Card 1/1 Pub.152 - 1/19

Author : Tsyrlin, D. L.

Title : Progress in the manufacture of superphosphates and its further development

Periodical : Zhur. prikl. khim. 28, 10, 1025-36, 1955

Abstract : The greatest achievement in the manufacture of superphosphates is the conversion of the process to a continuous method of production. A flow sheet and a description of the plant units are given. A semi-continuous process for the manufacture of superphosphates and a granulation method are also described. Two tables, 6 diagrams, no references.

Institution : None

Submitted : No date

GORMAN, I.L.; ZUSSER, Ye.Ye.; TSYRLIN, D.L.; SHERESHEVSKIY, A.I.

Developing the technology of granulated superphosphate production.  
Trudy NIUIF no.157:7-60 '55. (MIRA 9:9)  
(Phosphates)

Developments in the manufacture of superphosphate and  
future objectives

24

25

15

CA

The production of double superphosphate. D. J. Isylin. *J. Chem. Ind. (U. S. S. R.)* 17, No. 7, 19-22 (1940).—The flow sheet for the decompn. of apatite flotation concentrate by  $H_3PO_4$  is given. H. M. I.

ASB-3.1.1 METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible]

BERNSHTEYN, E.S., inzhener; TSYRLIN, D.Sh., inzhener.

Elimination of oil leakage from steam turbine bearings. Energetik  
4 no.6:19-21 Je '56. (MLRA 9:8)

(Bearings (Machinery))



LODOCHNIKOV, E.A., inzh.; TSYRLIN, I.A., inzh.; SHIFKOV, Yu.P., inzh.;  
SURIN, N.V., inzh.

New series of d.c. micromotors. Elektrotehnika 35 no.7:40-42 '64.  
(MIRA 17:11)

PIMENOV, Yuriy Ivanovich; TSYRLIN, I.I., red.; SIDOROVA, A.A., tekhn. red.

[In the region around Moscow] V Podmoskov'e. Moskva, Gos. izd-  
vo "Iskusstvo," 1958. 82 p. (MIRA 11:10)  
(Moscow Province--Description and travel)

AUTHOR: Tsyrlin, L. 2-58-6-10/16

TITLE: Statistical Publications by the State Statistical Administration of Czechoslovakia (Statisticheskiye publikatsii gosudarstvennogo statisticheskogo upravleniya Chekhoslovakii)

PERIODICAL: Vestnik statistiki, 1958, Nr 6, pp 72-78 (USSR)

ABSTRACT: This article is a critical review of three books containing statistical data on Czechoslovakia, published in 1957 in Prague. Their titles are 1) "Statistical Year-Book of the Czechoslovak Republic - 1957"; 2) "Position of the Czechoslovak Republic in World Economy"; 3) "General Stock-Taking of Basic Funds in Czechoslovakia". There are 3 tables.

Card 1/1

1. TSYRLIN, L.
2. USSR (600)
4. Unemployed - United States
7. Bourgeois falsification of facts on unemployment in the U. S. Plan. khoz., No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

TAKOPULO, D.; TSYRLIN, L.

A valuable and much needed book ("Technical inventory and appraisal of buildings" by V.G.Petropavlovskii. Reviewed by D.Takopulo, L.TSyrlin). Zhil.-kom.khoz. 9 no.11:34 '59.  
(MIRA 13:2)

1. Starshiy inzhener Byuro tekhnicheskoy inventarizatsii g.Minska (for Takopulo). 2. Nachal'nik Baranovichskogo mezhdugorodskogo byuro tekhnicheskoy inventarizatsii (for TSyrlin).

(Real property--Valuation)  
(Petropavlovskii, V.G.)

TsyRLIN, L.

2-5-8/11

AUTHOR: Tsyrlin, L.

TITLE: The Statistical Year-Book of the German Democratic Republic for 1955 (Statisticheskij yezhegodnik germanskoy demokraticheskoy respubliky za 1955 g.)

PERIODICAL: Vestnik Statistiki, 1957, # 5, p 77-82 (USSR)

ABSTRACT: The year-book of the German Democratic Republic for 1955 contains basic statistical data, showing the economy and culture of the GDR. The book consists of the following sections:

1. The part of the separate sectors in basic branches of national economy.
2. Territory and people.
3. National education.
4. Culture.
5. Public health services.
6. Balance of national economy (Social product, national income, real wages, cost of living, population supplies).
7. Labor and productivity of labor.
8. Industry.
9. Construction.
10. Handicraft and small industries.
11. Farming and forestry.
12. Transport and communication service.
13. Inland goods circulation.
14. Foreign trade.
15. Communal economy.
16. Finances.

Other sections provide data about mass organizations, parliamentary elections, local organs and geography.

A special annex is referring to the most important statistical data of the West-German and Saar district economy and to basic

Card 1/2

2-5-8/11

The Statistical Year-Book of the German Democratic Republic for 1955

statistical indices of different countries.

The author points out the "considerable" development of the GDR national economy and stresses especially the increasing trend towards nationalized industry and agricultural collectivization.

The year-book has been published in 1956 by the State Central Statistical Institute in Berlin.

ASSOCIATION: State Central Statistical Institute in Berlin (Gosudarstvennoye tsentral'noye statisticheskoye upravleniye, Berlin)

AVAILABLE: Library of Congress

Card 2/2

Cost and Standard of Living - United States

Falsification of cost of living index in the U. S. A., Vest. stat., No. 2, 1952.

Monthly List of Russian Accessions. Library of Congress, July 1952. Unclassified.



TSYRLIN, L.B.

Conditions for the conservation of the geometric picture of an  
electrostatic field in the presence of a space charge. Zhur.  
tekh. fiz. 27 no.7:1587-1588 J1 '57. (MLRA 10:9)  
(Electrostatics)

TSY...

Two electrostatic problems for regions with cylindrical boundaries.  
Zhur. tekhn. fiz. 35 no.6:973-982 Je '65. (MIRA 18,7)

**"APPROVED FOR RELEASE: 08/31/2001**

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**CIA-RDP86-00513R001757320012-3"**

TSYRLIN, L.E.

Some problems in the mathematical theory of corona discharges due to  
d.c.voltages. Zhur.tekh.fiz.26 no.11:2524-2538 N '56. (MLRA 10:1)  
(Corona (Electricity))

Р.И.И.И., 1964.

Calculation of the field of certain electron-optical devices.  
Zhur. tekhn. fiz. 34 no.7:1293-1305 J1 '64 (MIRA 17:8)

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**APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001757320012-3"**

TSTRLIN, L.E., Cand Phys-Math Sci--(diss) "Certain problems of the theory of ion current in gas with ~~the~~ application to <sup>corona</sup> ~~gas corona~~ discharge."  
Len, 1951. 16 pp (Min of Higher Education USSR. Len Polytech Inst in L.I.Kalinin), 150 copies (KL, 49-58, 120)



SAPOZHNIKOV, L.B.; TSYRLIN, L.E.

Scattering of electrons by a potential barrier. Radiotekh. i  
elektron. 9 no.6:1029-1033 Je '64. (MIRA 17:7)

ACCESSION NR: AP4042006

S/0057/64/034/007/1293/1305

AUTHOR: Tsy\*rlin, L.E.

TITLE: On the calculation of the fields of certain electron-optical devices

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.7, 1964, 1293-1305

TOPIC TAGS: electron optics, deflection coil

ABSTRACT: A method is developed for calculating the fields of toroidal- or saddle-wound magnetic deflecting or focusing coils and of certain axially symmetric electrostatic deflecting systems (B.E.Bonshtedt, Avtorskoye svidetel'stvo No.143479, kl. 21D, 1323, 1961), which is much less laborious than the more rigorous method of P.L. Kapitsa, V.A.Fok and L.A.Vaynshteyn (ZhTF 29, 1179, 1959). The deflecting coil is treated as a cylindrical shell of magnetic material with a preassigned distribution of current on the inner and outer surfaces to represent the current in the windings. In the case of a magnetically shielded saddle-wound coil, the current is distributed only on the inner surface. The shell of magnetic material is assumed to be thin and, at least in the illustrative calculations, to have infinite permeability. Under these conditions the problem of calculating the field reduces to that of find-

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ACCESSION NR: AP4042006

ing a solution of Laplace's equation which assumes preassigned values on the surface of a cylinder of finite length. To solve this problem, the unknown potential is expressed, with the aid of Green's function, as an integral over an unknown charge distribution on the cylindrical surface. A Fourier transform is performed with respect to the azimuth angle, and an integral equation is derived for the unknown charge distribution in terms of the known values of the potential on the cylindrical surface. To obtain an approximate solution of this integral equation, the cylindrical surface is separated into a finite number of sections by planes perpendicular to the axis, the Fourier component of the charge density is assumed to be either a step function or a stepwise linear function of the axial coordinate, and the integral equation is required to hold only on the average in each section of the cylinder. There results a set of linear equations for the coefficients defining the step function that represents the charge density. From the charge distribution, the field is obtained with the aid of Green's function. This approximation is good only sufficiently far from the surface of the cylinder; a distance equal to the radius of the cylinder can be sufficiently far, however, so that the field can be obtained in the paraxial region where it is most required. The fields of a toroidal-wound and a saddle-wound deflecting coil are calculated as examples. The adequacy of the approximation is tested by comparing the values of the approximate potential

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ACCESSION NR: AP4042006

on the surface of the cylinder with its proscribed values. Rather impressive accuracy is obtained by dividing the cylinder into only three sections. Orig.art.has: 78 formulas, 7 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 22Jul63

ENCL: 00

SUB CODE: OP MA

NR REF SOV: 002

OTHER: 001

57-27-7-23/40  
AUTHOR: Tsirlin, L. E.,

TITLE: Conditions for the Conservation of the Geometric Image of an Electrostatic Field Upon Occurrence of a Volume Charge (Usloviye sokhraneniya geometricheskoy kartiny elektrostatičeskogo polya pri pojavlenii ob'umnogo zarjada)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1957, Vol. 27, Nr 7, pp. 1587-1588 (USSR)

ABSTRACT: The facts given here were recorded by the author in his papers concerning the theory of the corona discharge (Zhurnal Tekhnicheskoy Fiziki, 1952, Vol. 22, p. 1184; Zhurnal TekhnFiziki, 1953 Vol. 23, p. 93 and p. 1788) in the three trivial cases (where parallel surfaces, coaxial circular cylinders or concentric spheres serve as electrodes) the occurrence of and the increase in a volume charge in all other cases distort the image of the field. It is shown that a form of distribution of the volume charge, in a general form for any electrode-system, may be found in which the geometric family of equipotential surfaces (or lines of force) is the same as in the absence of the volume charge, independent on its quantity. There is 1 Slavic reference.

Card 1/2

Conditions for the Conservation of the Geometric Image of an  
Electrostatic Field Upon Occurrence of a Volume Charge

57-27-7-23/40

SUBMITTED: December 14, 1956

AVAILABLE: Library of Congress

1. Corona discharges-Theory
2. Electrostatic fields-Theory

Card 2/2

PA - 2144

AUTHOR:

TSYRLIN, L. E.

TITLE:

Remarks on the Paper from Popkov "On the Theory of Stationary Current Bipolar Corona." (Russian).

PERIODICAL:

Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 2, pp 417 - 421  
(U.S.S.R.)

Received: 3 / 1957

Reviewed: 4 / 1957

ABSTRACT:

It is stated that the equilibrium-equation of ions which is used in Popkov's theory does not correspond to the physical character of this task. The correct equations have already been given by the author (TSYRLIN) in Zhurnal tekhn. Fiz., 1953, Vol 23, 1788. This question is again discussed since Popkov insists on the correctness of his theory. It is also shown that Popkov's method of solving tasks is not approximated, but incorrect. Furthermore it is shown that Popkov's attempts at explaining his theory by the influence of counterflowing ions are completely wrong. Popkov's calculations are no reason to assume a decline of the boundary-field with developing Corona. The reference made to Kaptsov is unfounded since the latter never made such a statement. Comparison with experimental results obtained by Kyun for coiled conductors can serve as a good means of discrediting the theory referring to cylindrical conductors. Summing up it is stated that the

Card 1/2

Remarks on the Paper from Popkov "On the Theory of Stationary  
Current Bipolar Corona." PA - 2144

results of Popkov's theory are proved to be unfounded by  
circumstances of a principal nature.

ASSOCIATION: Not given.

PRESENTED BY:

SUBMITTED: 27.2.1956.

AVAILABLE: Library of Congress.

Card 2/2



USSR/Physics - Corona discharge

FD - 3169

Card 1/1 Pub. 153 - 25/26

Author : Tsyrilin, L. E.

Title : Remarks on V. I. Popkov's article "Theory of corona discharge in gas at constant voltage"

Periodical : Zhur. tekhn. fiz., 25, No 13 (November), 1955, 2403-2405

Abstract : The aim of V. I. Popkov in his article (Izv. AN SSSR, OTN, No 5, 1953) was to find the volt-ampere dependence, field distribution, current, and charge for unipolar corona in the general (i.e. 3-dimensional) case; that is, he sought to find the approximate solution of the following system of equations  $\text{e} \cdot \text{div } E = p$  and  $\text{div } j = \text{div } p k E = 0$  in the form  $E = \theta E^0$ , where  $E^0$  is the field in the absence of space charge. The present writer had already noted earlier (ibid. 23, 1, 1953), concerning previous works of Popkov (Elektrichestvo, No 1, 1949) that in as much as the last relation  $E = \theta E^0$  is untrue in the general case the field in this form cannot simultaneously satisfy both of the first equations as stated; i.e. in trying to satisfy the exact system of equations by the known inexact form of the solution, the writer obtained an incompatible system.

Submitted : November 23, 1953

*TSYRLIN, L. Ye. 18 Y K L I N, W, Ye*

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1841  
 AUTHOR CYRLIN, L.E.  
 TITLE Some Problems connected with the Mathematical Theory of the Corona Discharge in the Case of a Constant Voltage.  
 PERIODICAL Zhurn.techn.fiz, 26, fasc.11, 2524-2538 (1956)  
 Issued: 12 / 1956

The accepted theory of the unipolar corona is based on a nonlinear system of the third order of partial differential equations. The present work deals with the problem connected with solving this system for the general case that these equations have not degenerated into elementary, elementarily solvable equations.

The following is shown by the present work: The previously obtained solutions can, from the point of view of certain direct methods of mathematical physics (by which a partial differential equation is reduced to a system of ordinary differential equations) be considered as first approximation.

The ordinary differential equations to which application of these methods leads in the following approximations can, in turn, be reduced to recurrence systems of simple linear equations. On this occasion the solutions are represented as development in series according to the powers of any corona parameter.

It is also possible to make use of a representation in form of a series according to the parameter of the direct solution of the original partial differential equation. This representation is reduced to a recurrence system of linear POISSON equations, but with an unknown right side which can be determined from the bound-

Žurn.techn.fis,26, faso.11, 2524-2538 (1956) CARD 2 / 2

PA - 1841

ary conditions. The application of the aforementioned direct methods to these equations leads to the same result as the above mentioned order of solution.

The paper then deals with the solution of this problem in second approximation for a system consisting of a conductor and a plane. By approximated summation of the series over the parameter useful formulae are obtained for the volt-ampère dependence, and these formulae are then compared with experimental data.

The above is a translation of the summary attached by the author.

INSTITUTION:

**TSYRLIN, L.E.**

Comments on V.I.Pepkev's paper "Theory of corona discharges in gases of constant voltage". Zhur.tekh.fiz.25 no.13:2403-2405 N '55.  
(Corona (Electricity)) (Pepkev, V.I.) (MLBA 9:2)

TSYRLIN, L. E.

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USSR/Electricity - Corona Discharge      Jul 52

"Theory of Corona Discharge at Constant Potential," L. E. Tsyrlin

"Zhur Tekh Fiz" Vol XXII, No 7, pp 1184-1189

Analyzes corona discharge between endless cylindrical cable and a parallel plane at constant potential. Gradually solves problems of volt/ampere ratio, field distribution, current and charge under assumption of stability of static field. Indebted to V. V. Gey. Received 1 Apr 52.

223740

TSYRLIN, L.M.

ABRAMOV, V.A.; ALEKSEYEV, A.M.; AL'TER, L.B.; ARAKELYAN, A.A.; BAKIANOV, G.I.;  
BASOVA, I.A.; BLYUMIN, I.G.; BOGOMOLOV, O.T.; BOR, M.Z.; BREGEL',  
E.Ya.; VEYTSMAN, N.R.; VIKENT'YEV, A.I.; GAL'TSOV, A.D.; GERTSOVSKAYA,  
B.R.; GLADKOV, I.A.; DVORKIN, I.N.; DRAGILEV, M.S.; YEFIMOV, A.N.;  
ZHAMIN, V.A.; ZHUK, I.N.; ZAMYATNIN, V.N.; IGNAT'YEV, D.I.; IL'IN,  
M.A.; IL'IN, S.S.; IOFFE, Ye.A.; KAYE, V.A.; KAMENITSER, S.Ye.;  
KATS, A.I.; KLIMOV, A.G.; KOZLOV, G.A.; KOIGANOV, M.V.; KONTOROVICH,  
V.G.; KRAYEV, M.A.; KRONROD, Ya.A.; LAKHMAN, I.L.; LIVANSKAYA, F.V.;  
LOGOVINSKAYA, R.L.; LYUBOSHITS, L.I.; MALYSH, A.I.; MENZHINSKIY,  
Ye.A.; MIKHAYLOVA, P.Ya.; MOISEYEV, M.I.; MOSKVIN, P.M.; NOTKIN,  
A.I.; PARTIGUL, S.P.; PERVUSHIN, S.P.; PETROV, A.I.; PETRUSHOV, A.M.;  
PODGORNOVA, V.M.; RABINOVICH, M.A.; RYVKIN, S.S.; RYNDINA, M.N.;  
SAKSAGANSKIY, T.D.; SAMSONOV, L.N.; SMEKHOV, B.M.; SOKOLIKHIN, S.I.;  
SOLLERTINSKAYA, Ye.I.; SUDARIKOV, A.A.; TATAR, S.K.; TEREENT'YEV,  
P.V.; TYAGAY, Ye.Ya.; FEYGIN, Ya.G.; FIGURNOV, P.K.; FRUMKIN, A.B.;  
TSYRLIN, L.M.; SHAMBERG, V.M.; SHAPIRO, A.I.; SHCHENKOV, S.A.;  
HYDRL'MAN, B.I.; EKHIN, P.E.; MITROFANOVA, S., red.; TROYANOVSKAYA, N.,  
tekhn.red.

[Concise dictionary of economics] Kratkii ekonomicheskii slovar'.  
Moskva, Gos.izd-vo polit.lit-ry, 1958. 391 p. (MIRA 11:7)  
(Economics--Dictionaries)

TSYRLIN, L. M.

Bourgeois statistics are concealing the truth

HA29.T78

1. Statistics. I. Petrov, Aleksandr Il'ich, 1897-

LEVIT, G.A.; TSYRLIN, M.M.; LAPIDUS, A.S.

Lubricants and lubrication systems for face-plate supports of  
heavy-duty vertical boring and turning machines. Stan.1 instr.  
29 no.5:28-34 My '58. (MIRA 11:7)  
(Metalworking lubricants)



DMITRIYEVA, R. [translator]; LEZINOVA, N. [translator]; SHPRINK, V.  
[translator]; TSYRLIN, L.M., red.; SEMENOVA, N.Kh., red.;  
PYATAKOVA, N.D., tekhn.red.

[Agricultural statistics in capitalist countries] Statistika  
sel'skogo khoziaistva v kapitalisticheskikh stranakh; sbornik  
statei. Moskva, Gosstatizdat TsSU SSSR, 1960. 226 p.

(MIRA 14:1)

(Agriculture--Statistics)

TSYRLIN, L. M.

Bourgeois statistics are concealing the truth.

1. Statistics. 1. Petrov, Aleksandr II'ich, 1897

TSYRLIN, L. M.

Burzhuznaya statistika skryvaet pravdu /Bourgeois statistics conceal the truth/. Moskva, Gospolitizdat, /1954?/ 168 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 3, June 1954.

TSYRLIN, M.I.; GUREVICH, V.Z.

Thermal-radiation drying of car bodies. Avt.prom. no.2:38-40  
F '60. (MIRA 13:5)

1. Gor'kovskiy avtozavod.  
(Automobiles--Painting)

TSYRLIN, M.I., inzh.

Electric painting and heat-radiation drying. Mashinostroitel'  
no.4:30-31 Ap '60. (MIRA 13:6)  
(Painting, Industrial) (Drying apparatus)

ZIL'BERBERG, V.I.; ROZNO, L.I.; GULYAYEV, A.I.; TSYRLIN, M.I.;  
BOBKOV, L.S., inzh., retsenzent; MANUYKOV, P.N., inzh.,  
red.

[Overall mechanization and automation of painting operations] Kompleksnaia mekhanizatsiia i avtomatizatsiia okrasochnykh rabot. Moskva, Mashinostroenie, 1965. 146 p.  
(MIRA 18:6)

4

CP

Use of high-frequency current heating for surface hardening automobile parts. M. I. Tsyrlin and N. L. Abramenko. *Avtotraktorное Дело* 1939, No. 1, 34-6. - Details of installation are given. B. Z. Kamich

LEVIT, G.A.; TSYRLIN, M.M.

Increasing the working capacity of the cylindrical guide of vertical  
boring and turning machines. Stan.1 instr.27 no.6:1-9 Je '56.  
(Machine tools) (MLRA 9:9)



Tsyrlin, M.M.

AID P - 5160

Subject : USSR/Engineering

Card 1/1 Pub. 103 - 1/19

Authors : Levit, G. A., and M. M. Tsyrlin

Title : Increasing performance efficiency of circular guides in vertical boring and turning machines.

Periodical : Stan. i instr., 6, 1-9, Je 1956

Abstract : The authors describe the research undertaken jointly by the Experimental Scientific Research Institute of Metal-Cutting Machines (ENIMS) and Machine-tool Construction Bureau No. 4 at the Kolomna Heavy Machine-tool Plant, in order to eliminate the formation of scorings on friction surfaces of the circular guides of vertical turning machines (the 1532-model was used). A few practical suggestions are given. Five drawings, 16 graphs, 2 tables.

Institutions: As above

Submitted : No date

MEDNIKOV, A.N.; TSYRLIN, M.M.

Spring-indicator tensile-force dynamometer. Stan.i instr. 27  
no.1:39-40 Ja '56. (MLHA 9:5)  
(Dynamometer)

*TSYRLIN, M.M.*

MEDNIKOV, A.N.; TSYRLIN, M.M.

Experience in using an electromechanical system of periodic feeding  
operating with alternating current in heavy milling machines. Stan.  
1 instr. 25 no.9:7-10 S '54. (MLRA 7:11)  
(Milling machines)

TSYRLIN, M. M.

USSR/ Miscellaneous

Card 1/1 : Pub. 103 - 2/29

Authors : Mednikov, A. N., and Tsyrlin, M. M.

Title : Utilization of electromechanical systems of periodic AC-current feeding in heavy machines

Periodical : Stan. i instr. 9, 7-10, Sep 1954

Abstract : The advantages and disadvantages of using electromechanical systems for periodic AC-current feeding in heavy metal-processing machines are discussed. The electrical motors most recommended for this purpose are described. Graphs; drawings; illustrations.

Institution : ...

Submitted : ...

KOMINAR, S.I.; TSYRLIN, M.I.

Electric pulse cutting of forging dies at the Gorkiy Automobile  
Plant. Avt. prom. 30 no.7:42-44 J1 '64.

(MIFA 17:9)

1. Gor'kovskiy avtozavod.

Subject : USSR/Engineering AID P - 4216  
Card 1/1 Pub. 103 - 17/20  
Authors : Mednikov, A. N. and N. M. Tsyrlin  
Title : Spring and Arrow-Type Dynamometers  
Periodical : Stan. i instr., 1, 39-40, Ja 1956  
Abstract : The Kolomenskiy (near Moscow) Plant has built new and improved dynamometers of a spring and arrow-type design of 5 to 200 kgs capacity. The authors describe the 50 kg dynamometer and illustrate it. One picture and 1 drawing.  
Institution : None  
Submitted : No date

1ST AND 2ND ORDER										PROCESS AND PROPERTIES INDEX									
<p>1563. Genetically Bound Impulses Induced by Cosmic Rays, by M. Dobrotin and V. Tsyrlin. <u>Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki</u> 18, p. 268-274, 1948. (In Russian)</p> <p>Experiments at the height of 3860 m indicate that the main part of the coincidences observed in a vertically distributed group of proportional counters cannot be ascribed to showers, but must be due to genetically associated secondary particles formed as a result of the interaction of the cosmic radiation with matter.</p>																			
ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION										AUSION BOMBYV									
1ST AND 2ND ORDER										1ST AND 2ND ORDER									

TSYRLIN, V. -----

USSR/Nuclear Physics - Counters, Electronic  
Nuclear Physics - Cosmic Radiation

Jul 48

"Use of the Proportional Counter Method for Studying the Genetic Relationship of Impacts Caused by Cosmic Rays," N. Dobrotin, S. Nikol'skiy, V. Tsyrlin, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 21 pp

"Dok Ak Nauk SSR" Vol LXI, No 2

Continuation of previous paper (see 58T86). Experiments were performed in summer of 1947, 3,860 meters above sea level. Results confirm previous conclusion, that many of the coincidences in proportional counters, whether placed side by side or above each other, are caused by genetically connected fissions.

Submitted 13 May 48

PA 11/49T85



TSYRLIN, V. Yu.

197 Investigation of Genetically Related Pulses with the Aid of Proportional Counters. N. A. Dobrotin, G. M. Stashkov, and V. Yu. Tsyrlin. Doklady Akad. Nauk S.S.S.R. 65, 473-6(19 9) (in Russian) (See also NSA 1-1563 and 2-1557).

In previous works (Doklady Akad. Nauk S.S.S.R. 57, 443 (1947); 61, 249 and 261(1948)) the authors described peculiar "genetically related" pulses produced by cosmic rays in proportional counters, which could not be ascribed to ordinary showers or to single slow, strongly-ionizing particles due to nuclear disintegrations. New observations, made at 3,860 m altitude, are reported here. The instrument was a telescope consisting of two groups of flat proportional counters and, between them, a group of fast counters connected with neon bulbs and forming a hodoscope; another part of the same hodoscope was a group of counters placed at 2m from the telescope. The set-up permitted a clear discrimination between two co-existing effects, viz. extensive showers and "genetically related pulses." In the latter, the number of pulses decreases with the number of hodoscope counters involved at each pulse; the correlation coefficient between the intensities of pulses recorded by the two groups of proportional counters is zero; the spectrum of the pulse intensities is  $N(i) = C i^{-k}$  with  $k = 2.4 \pm 0.4$ . In the showers, the number of pulses increases with the number of hodoscope counters discharged at each pulse; the correlation coefficient between the two groups of proportional counters is equal to 0.36; the exponent in the spectrum of the intensities, for the case of dense showers, is  $k = 1.2 \pm 0.4$ .

KLIMENKO, V. (Leningrad): TSYRKIN, Ye. (Leningrad)

Unification of symbols in the economics literature. Vop.ekon.  
no.9:152-153 S '60. (MIRA 13:8)  
(Economics--Terminology)

BRUNSHTEYN, B.A.; GORENBURG, V.P.; KLIMENKO, V.L.; FUKS, Ye.Sh.;  
TSYRKIN, Ye.B.

Optimalizing the production of automobile gasoline in a petroleum  
refinery. Nefteper. i neftekhim. no.12:3-7 '63. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh  
protssessov.

TSYRKUNOV, L.P.

Chicken pox and herpes zoster. Vrach. delo no.9:125 S '60.

(MIRA 13:9)

1. Klinika kozhnykh i venericheskikh bolezney (zav. - dotsent S.N.  
Bogdanovich) Kiyevskogo meditsinskogo instituta.

(CHICKEN POX)

(HERPES ZOSTER)

22597  
S/066/60/000/002/002/006  
A003/A129

26.2194

AUTHORS: Medovar, L.; Uzhanskiy, V.; Tsyrlin, B.; - Engineers

TITLE: Electronic indicators for refrigerating compressors

PERIODICAL: Kholodil'naya tekhnika, no. 2, 1960, 8 - 12

TEXT: The operation processes of modern piston machines necessitates the use of electronic indicators which permit the devices to be unified and the observation and recording of several processes to be made at the same time. Recently the works of V. Zolotarevskiy [Ref. 1: Analiz rabochego protsessa bystrokhodnykh porshnevnykh dvigateley po indikatorsnym diagrammam, Laboratoriya dvigateley AN SSSR (Analysis of the operation process of high-speed piston engines by indicator diagrams, Laboratory of Engines of the AS USSR), VINITI, 1957] and V. Kokoshin [Ref. 2: Issledovaniye vliyaniya chisla oborotov na rabochiye koeffitsienty freonogo porshneвого kompressora maloy proizvoditel'nosti. Dissertatsiya, 1955 (Investigation into the effect of the revolution number on the operation coefficients of a piston compressor of low productivity. Dissertation, 1955)] aroused great interest. The first types of electronic indicators were developed in 1954 by V. Kudryavtsev and Yu. Yasenev [Ref. 3: Otchet VNIKhI (Report of the VNIKhI),

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S/066/60/000/002/002/006  
A003/A129

Electronic indicators for refrigerating compressors

1954]. The circuit diagram of an electronic indicator used at the VNIKhI is shown in Figure 1. The resistors of the pickup tensiometers  $R_{\beta_1}$  and  $R_{\beta_2}$  are connected to two shoulders of the bridge. The resistors  $R_3$  and  $R_4$  form two other shoulders of the bridge. The potentiometer  $R_5$  with the capacitor  $C$  compensates the parasitic capacitances of the tensiometers and the conducting wires. An electronic oscillograph 30-7 (EO-7) with a screen diameter of 150 mm, a "Zenit" camera for photographing the oscillograms and a 3Г-10 (ZG-10) sound generator for feeding the bridge circuit were used in the experiments. The frequency of the feeding current was 4 kc/s. Figure 2a shows a diagram obtained with an electronic indicator. For magnetoelectric experiments a MTO-2 (MPO-2) oscillograph was used. Figure 2b shows the oscillogram of the process and the designation of the dead points. The transformation of the oscillograms from the coordinates "pressure versus time" into the coordinates "pressure versus piston course" is carried out either graphically or by an approximate formula relating the piston course  $S$  with the angle of turning  $\alpha$ :  $S = R \left[ 1 - \cos \alpha + \frac{\lambda}{4} (1 - \cos 2\alpha) \right]$ , where  $\lambda = \frac{R}{L}$  is the ratio of the radius of the camshaft to the length of the connecting rod. It was shown that the most important element of the device is the pressure pickup. Figure 3 shows a pickup for big compressors. For small compressors a plate pickup was developed [Ref. 10: L. Medovar, Otchet VNIKhI (Report of the VNIKhI),

Card 2/7

Electronic indicators for refrigerating compressors

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S/066/60/000/002/002/006  
A003/A129

1959] which is inserted directly into the valve plate from the cylinder side and communicates with the atmosphere (Fig. 4). The position of the pickup in relation to the cylinder is of utmost importance. In order to obtain accurate results, the device must satisfy the following conditions: 1) the dependence between the pressure to be tested and the deviation of the oscillograph ray must be linear with an accuracy of 1 - 2%; 2) the dependence between the deviation of the ray at a given pressure amplitude and frequency of pressure change must be constant within the frequency range from 0 to  $f_{\max}$  with an accuracy of 1 - 2%; the maximum frequency depends on the rpm of the machine and can be determined by the formula  $f_{\max} = \frac{N}{30 \cdot \pi a_n}$  cycles, where  $N$  is the rpm number of the machine and  $a_n$  the accuracy of reproducibility; 3) the value of the carrying frequency must surpass the maximum frequency by at least 2 - 3 times; 4) during operation the tensiometers must not be overheated by current; its permissible density must not exceed 50 amp/mm<sup>2</sup>; the value of the feeding voltage is calculated by the formula  $u = 50 S (R_0 + R_0)$ , where  $S$  is the cross section of the wire in mm<sup>2</sup>,  $R_0$  is the resistance of the pickup in ohm,  $R_0$  is the resistance of the balance shoulder in ohm; in short-time operation the admissible current density can reach 100 amp/mm<sup>2</sup>; 5) the pickups should have a minimum sensitivity to tempera-

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Electronic indicators for refrigerating compressors

22597

S/066/60/000/002/002/006  
A003/A129

ture changes. Small-size transportable pickups should be developed for work under operation conditions. There are 4 figures and 11 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut kholodil'noy promyshlennosti (All-Union Scientific Research Institute of the Refrigerating Industry)

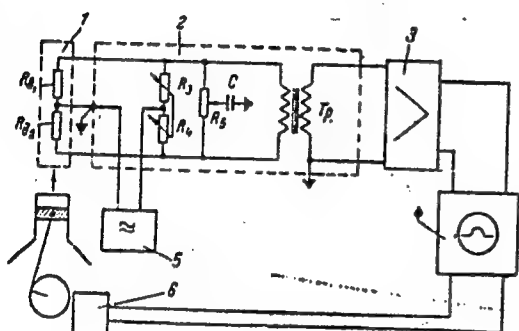


Figure 1: Diagram of the electronic indicator. 1 - pressure pickup; 2 - measuring circuit; 3 - amplifier; 4 - oscillograph; 5 - generator of sound frequency; 6 - indicator of dead points.

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TSYLLI, L.S., inch.

Use of ventilating fans to raise the power to the current level in  
VV-15/500 circuit. Vent. equipment. 31 no.12:35-36 D '6'.  
(MIA 14:2)

(Electric circuits)

L 3353-66 EWT(1)/EPA(s)-2/EWT(m)/T/EMP(t)/EMP(b) IJP(c) JD/JG/GG  
 ACCESSION NR: AP5013481 44,55  
 UR/0185/65/010/005/0570/0571

AUTHOR: Baturicheva, Z. B.; Hurevych, N. Yu.; Tsyrlin, Yu. A. 44,55 63

TITLE: The effect of ionic processes on the thermal destruction of capture centers in NaI(Tl) 44,55

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 10, no. 5, 1965, 570-571

TOPIC TAGS: sodium chloride, radiative capture, ionic crystal 44,55

ABSTRACT: The authors studied the effect of ionic processes on the thermal stability of F-capture centers in NaI(Tl) crystals treated with x-rays at room temperature (50 kv, 10 ma, exposure 1 year). By assuming an ionic mechanism in the destruction of F-capture centers, values were obtained for the activation energy of structure-sensitive conductivity which are in good agreement with experimental results. It is concluded that the thermal destruction of F-capture centers is basically the result of ionic processes in the case of higher-than-room temperatures. Orig. art. has: 2 figures, 5 equations.

ASSOCIATION: VNDI Monokrystaliv m. Kharkov (VNDI of Monocrystals) 44,55

SUBMITTED: 13Jan65

NO REF SOV: 002

ENCL: 01

OTHER: 002

SUB CODE: SS

Card 1/2

L 3353-66

ACCESSION NR: AP5013481

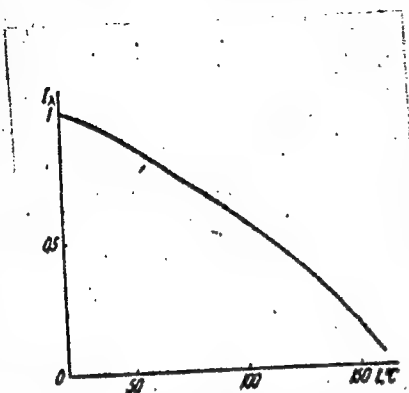


Fig. 1. Thermo-optical luminescence induced in the F-band of crystals of NaI(Tl) irradiated with x-rays at room temperature.

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DP

ENCLOSURE: 01

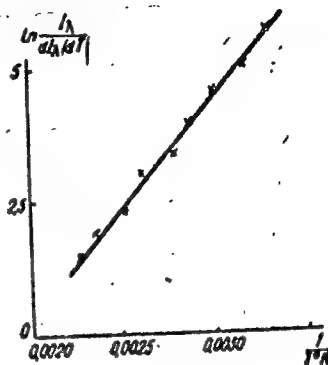


Fig. 2.  $\ln \frac{I_\lambda}{dI_\lambda/dT}$  as a function of inverse temperature; ( $I_\lambda$  is the rate of optical luminescence;  $T$  is the absolute temperature).

the test was 404/800. The illumination was 100 lux. The test was conducted with a low water level.

Card 1/2

**"APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001757320012-3**

**APPROVED FOR RELEASE: 08/31/2001**

**CIA-RDP86-00513R001757320012-3"**

NOVIKOV, I.A.; TSYRLINA, B.B.

Modification of the photographic properties and resolving power of ultra-high dispersion emulsions during chemical ripening. Zhur.nauch,i prikl.fot.i kin. 5 no.3:218-219 My-Je '60. (MIRA 13:7)

1. Filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta, g.Kazan'.

(Photographic emulsions)

S/077/60/005/005/009  
E073/E335

AUTHORS: Novikov, I.A. and Tsyrlina, B.B.

TITLE: On the Changes in the Photographic Properties and  
the Resolving Power of Particularly High Disperse  
Emulsions During the Process of Chemical Maturing

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i  
kinematografii, 1960, Vol. 5, No. 3, pp. 218 - 219

TEXT: One of the authors has shown in an earlier paper (Ref. 1) that during the process of chemical maturing of some particularly high disperse emulsions the average size ( $\bar{x}$ ) of the microcrystals of silver halide increases appreciably. The assumption was expressed that this size-increase influences the photographic and the structural properties of the emulsion layers. The assumption was verified on silver-chloride photo-emulsions produced in one case at an ordinary maturing temperature ( $\bar{x} = 0.052 \mu^2$ ) and, in the other case, at a reduced maturing temperature ( $\bar{x} = 0.023 \mu^2$ ). After washing, both emulsion specimens were subjected to a second maturing process during which specimens were taken from the emulsion

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S/077/60/005/005/009  
E073/E335

On the Changes in the Photographic Properties and the Resolving Power of Particularly High Disperse Emulsions During the Process of Chemical Maturing

for determining the light sensitivity ( $S$ ), the coefficient of contrast ( $\gamma$ ), the fog ( $D_0$ ), the resolving power ( $R$ ) and  $x$ . The values of  $x$  were determined from the scattering of the light in the undeveloped emulsion layers (Ref. 2). The results of the experiments are represented in a graph on p. 219 in the form of the curves  $\bar{x} = f(\tau)$ ,  $S = f(\tau)$ ,  $\gamma = f(\tau)$  and  $R = f(\tau)$ . The curves  $D_0 = f(\tau)$

are not reproduced since both emulsion specimens were fog-free. The obtained results indicate that with increasing duration of the chemical maturing the  $S$  of the emulsion increases and  $\gamma$  and  $R$  pass through maxima. The latter were more pronounced in the specimen in which the decrease in dispersion was more intensive. In ordinary emulsions  $\gamma$  increases with increasing time of the second maturing (Ref. 3). The detected character of the changes of  $\gamma$  is apparently determined by two factors

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S/077/60/005/005/009  
E073/E335

On the Changes in the Photographic Properties and the Resolving Power of Particularly High Disperse Emulsions During the Process of Chemical Maturing

which counteract each other: presence of chemical sensitizing which increases  $\gamma$  and coarsening of the emulsion micro-crystals which reduces the contrast (Ref. 3). At the beginning of the maturing process the effect of the first factor manifests itself more strongly, whilst during the further process it is the second factor which is more pronounced. Under otherwise equal conditions  $R$  decreases with increasing  $\bar{x}$ . However, in comparing the obtained curves no direct relation can be detected between these characteristics and, on the contrary, a full analogy can be observed between the changes of  $R$  and  $\gamma$ . This is not a random conclusion. Numerous observations have shown that a considerable change in the dispersion of the emulsion leads to a relatively small increase or decrease in  $R$  (Refs. 4, 5). On the other hand, it is known that with increasing  $\gamma$ ,  $R$  increases appreciably (Ref. 6). It is possible that the observed characteristic of the change in  $R$  is explained particularly by the given relation.

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S/077/60/005/003/005/009  
E073/E335

On the Changes in the Photographic Properties and the Resolving  
Power of Particularly High Disperse Emulsions During the Process  
of Chemical Maturing

There are 1 figure and 6 references: 1 English and 5 Soviet.

ASSOCIATION: Kazan' Filial NIKFI (Kazan Branch of NIKFI)

SUBMITTED: July 15, 1959

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Card 4/4

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